

## METHOD OF OPERATION

### TEST LINE

From District Or Office Frames - Local Test Desk - Small Capacity - Full Mechanical Power Driven System.

### GENERAL DESCRIPTION.

1. This circuit is used to provide means for the outside trouble man to call the test man at the local test set by dialing a particular code number. This test line connects either to the district or office frames. It is also used for testing the subscriber's line with a test cord circuit, whose sleeve is connected to battery, through a maximum resistance of 210 ohms.
2. When a particular code number is dialed, this test line is selected. The line is made busy by ground on the sleeve and red and white lamps flash at the test desk as an indication of an incoming call. The test man answers by inserting the plug of the test cord in the jack associated with the flashing lamps, extinguishing the white lamp and changing the red lamp from a flashing to a steady busy signal. Should the subscriber remove the receiver from the switchhook at a time when the plug of the test cord is not in the jack, the white lamp will flash. To disconnect the test line the disconnect key is operated.
3. The circuit is designed to prevent false operation of the message register, associated with the subscriber's line, by the operation of the CS relay in the district selector.

### DETAILED DESCRIPTION.

4. When a trouble man dials the test code number this line is selected and the SL relay operates from ground on sleeve, to battery on the break contact of the D relay. The SL relay locks to ground on its make contact, and connects ground from its make contact, to the sleeve of the circuit, as a busy condition. The L relay operates through its windings in series, break contacts of the R and CO relays, through the bridge in the district selector circuit. The L relay operated connects interrupted battery to the red and white lamps which flash. It also connects ground to the auxiliary signal circuit. When the plug of the test cord is inserted in the jack the CO relay operates, releasing the L relay and operating the R and H relays. The L relay released extinguishes the white lamp while the red lamp lights steadily to battery on the make contact of the H relay.
5. The operation of the R relay, reverses the leads of the L relay, to prevent scoring the message register associated with the subscriber's line, by the operation of the CS relay in the district selector while the switch passes through the talking position. The H relay locks to ground on the make contact of the SL relay. Both the R and H relays lock to ground on the sleeve of the district selector.
6. The plug of the test cord may be removed from the test line without disconnecting the latter. In this case the CO relay is released, bridging the L relay across the tip and ring. If the receiver at the subscriber's station is removed from the switchhook at this time, the L relay operates and connects interrupted battery to the white lamp causing it to flash.

7. To disconnect the test line, the disconnect key is operated, operating the D relay. Disconnection may take place either one of two ways, (a) if the plug of the test cord is not inserted in the jack when the disconnect key is operated, the D relay will operate, releasing the SL relay, which in turn releases the H relay. When the key is released the D relay releases, disconnecting ground from the sleeve, (b) if the disconnect key is operated while the plug of the test cord is in the jack, the D relay will operate and lock to ground through the make contact of the H relay, to the make contact of the CO relay. The operation of the D relay disconnects battery from the SL relay, releasing it. When the plug of the test cord is removed from the jack the H relay releases, removing ground from the sleeve, causing the district selector to disconnect.



CIRCUIT REQUIREMENTS

OPERATE

NON-OPERATE

RELEASE

E277      Readj. .034 amp.  
(CO)      Test .056 amp.  
          W.C.C. .077 amp.

Readj. .023 amp.  
Test .021 amp.

E419      Readj. .010 amp.  
(L)      Test .012 amp.  
Wdgs.    W.C.C. .0132 amp.  
series  
aiding.

Readj. .0015 amp.  
Test .0007 amp.

E429      Through relay wdg.  
(R)      Readj. .013 amp.  
          W.C.C. .0214 amp.  
          Through parallel  
          combination with  
          H relay.  
          Readj. .027 amp.  
          Test .036 amp.

Through relay wdg.  
Readj. .009 amp.

Through parallel  
combination with  
H relay.

Readj. .0186 amp.  
Test .0176 amp.

E572      Through relay wdg.  
(H)      Readj. .016 amp.  
          W.C.C. .0214 amp.  
          Through parallel  
          combination with  
          R relay.  
          Readj. .034 amp.  
          Test .040 amp.

Through relay wdg.  
Readj. .010 amp.

Through parallel  
combination with  
R relay.

Readj. .025 amp.  
Test .023 amp.

E652      Readj. .010 amp.  
(SL)      Test .016 amp.  
          W.C.C. .0214 amp.

Readj. .0014 amp.  
Test .0007 amp.

E1141    Special requirement to insure slow release.  
(D)      Readj. .021 amp.  
          Test .023 amp.  
          W.C.C. .0505 amp.

Readj. .014 amp.  
Test .013 amp.